

## REMARKS

The Examiner is thanked for the performance of a thorough search. In the specification, the paragraphs 29-30 and 31 are amended herein to correct informalities. Claims 1, 9, 20, 22-23, and 29-32 are amended herein. No claims are cancelled. New Claims 33-46 are added herein. Hence, Claims 1-46 are pending in the application. Claims 1, 9, 20, 22-23, and 29-32 are independent. No new matter is added herein. Applicants thank the Examiner for withdrawing the finality of the previous Office Action (OA), pursuant to 37 CFR § 1.114 and for entering Applicants' submission of December 1, 2005. Applicants respectfully request a one month extension of time for the shortened statutory period for response to the instant OA, which expired May 23, 2006 and submit herewith the statutory extension fee.

### I. CLAIM REJECTIONS

#### A. OHNO & TOMINAGA REFERENCES

Claims 1-11 and 23-30 are rejected under 35 USC § 103(a) over US Patent No. 6,578,088 to Ohno, et al. (hereinafter "Ohno") in view of US Patent No. 6,880,000 to Tominaga, et al. (hereinafter "Tominaga"). The rejections are respectfully traversed.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Further, the proper inquiry is whether there is something in the prior art as a whole to suggest the desirability of making the entire combination of claimed limitations. *In re Fulton*, 391 F.3d 1195, 1200-01, 73 USPQ2d 1141, 1145-46 (Fed. Cir. 2004). The Federal Circuit has recently re-iterated that "the tests of whether to combine references need to be applied rigorously." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001).

However, as stated by the Court of Appeals for the Federal Circuit, “[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of hindsight syndrome where that which only the inventor taught is used against its teacher.” *W.L. Gore & Assocs v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir 1983). Further, it is “impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious” and that “[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992); quoting *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

Independent Claims 1, 9 and 23 and 29-30 recite subject matter that relates to management of network addresses. As amended herein, the claims recite that an address utilization state of a network is determined. The address utilization state is based on **at least one of:**

- a percentage of a certain address space **allocated to a network service provider** that is **in use** by at least one of a **physical interface and a sub-interface of network access devices** that couple subscribers of the network service provider to the network, **over a total address space available to the network service provider (NSP);**
- a percentage of address space that is **in use at a physical interface over the total address space allocated by the owner;** and
- a percentage of address space **in use at a physical interface over the amount of address space allocated to that interface and to an NSP.**

This recited feature is explained at paragraph 51 of the specification. Basing the address utilization state on a percentage of allocation and/or actual use at a physical interface over total address space allocated by the owner and/or total address space allocated to an NSP provides the benefits relating to **versatility, flexibility and adaptability** in the management of network addresses.

The amended claims also recite that the address utilization state of a network is determined with actions that include **at least one** of:

- **collecting** the address utilization data from at least one **DHCP server** of the network;
- and
- **polling a broadband terminal directly** to obtain the address utilization data therefrom.

This recited feature is also explained at paragraph 51 of the specification. Determining the network's address utilization state from data from either or both of a DHCP server or a broadband terminal also provides benefits relating to **versatility, flexibility and adaptability** in the management of network addresses. Using one or both of these information resources makes available redundancy of sources and cross-checking of the address utilization data, which have advantages relating to reliability.

Further, the claims recite that, in response to determining the network address utilization state, a specified action is performed on addresses from the address space in which **at least one attribute of the certain address space is changeable with the specified action**. This feature is explained in the specification at paragraphs 52-65. Changing one or more attributes of the address space in response to determining the network address utilization state **allows automated intelligent and efficient management of a valuable network resource**.

Claims 2-8, 10-11, and 24-28 respectively depend upon independent Claims 1, 9 and 23 and incorporate each and every one of these recited features.

Applicants find no teaching, suggestion or disclosure that is directed towards these recited features in either Ohno or Tominaga. Applicants also find nothing in either reference that cures this defect in the other. For at least this reason, Claims 1-11 and 23-30 are allowable over Ohno in view of Tominaga under 35 USC § 103(a).

B. OHNO, TOMINAGA & FIJOLEK REFERENCES

Claims 12-22 and 31-32 are rejected under 35 USC § 103(a) over Ohno in view of Tominaga and further in view of US Patent No. 6,223,222 to Fijolek, et al. (hereinafter "Fijolek"). The rejections are respectfully traversed.

Claims 12-19 depend upon independent Claim 9 and thus include each and every feature recited therein. Claim 21 depends upon independent Claim 20 and thus includes each and every feature recited therein. Independent Claims 9, 20 and 31-32 recite subject matter that relates to management of network addresses. As discussed in Section 'A' above, these claims recite that the network address utilization state is determined based on a percentage of **allocation and/or actual use at a physical interface over total address space allocated by the owner and/or total address space allocated to an NSP**. The claims also recite that the network's address utilization state is determined from data from **either or both of a DHCP server and a broadband terminal**. Both of these features provide benefits relating to **versatility, flexibility and adaptability** in the management of network addresses. Further, the claims recite that a specified action is performed, responsive to the network address utilization state determination, on addresses from the address space in which **at least one attribute of the**

**certain address space is changeable with the specified action. This feature allows automated intelligent and efficient management of a valuable network resource.**

Applicants find no teaching, suggestion or disclosure that is directed towards these recited features in Ohno, Tominaga or Fijolek and nothing in any of the references that cures the defects of any of the others.

Further, in contrast to the claimed embodiments, which recite applicability to **broadband** network access means including both cable and digital subscriber line (DSL), the teachings of Fijolek are expressly directed and delimited to the field of **providing quality of service (QoS) to a cable modem in a data-over-cable system** (1: 7-10; 3: 35-50). While Fijolek does mention DSL (specifically asynchronous DSL, "ADSL"), it does so strictly in the context of individual cable modems that connect with an upstream telephony connection to a public switched telephone network (PSTN) (6: 38-50). Fijolek also mentions CMTS. However, in doing so, Fijolek expressly states that "in data-over cable system[s] without telephony returns, [a cable modem] has an upstream connection to [a] CTMS via a cable [TV] connection, a wireless [or] satellite connection, or a connection via other technologies to send data upstream **outside of the telephony return path** (6: 52-57).

Applicants find no teaching, suggestion or disclosure in Fijolek that is directed towards **management of network addresses**, as recited in the present claimed embodiments.

Applicants also find nothing in Fijolek that is directed towards any of:

- determining a network address utilization state based on a percentage of **allocation and/or actual use at a physical interface over total address space allocated by the owner and/or total address space allocated to an NSP;**

- determining a network address utilization state from data from **either or both of a DHCP server and a broadband terminal**; and/or
- performing a specified action is performed, responsive to the network address utilization state determination, on addresses from the address space in which **at least one attribute of the certain address space is changeable with the specified action**,

all as recited in the present claimed embodiments. Applicants find nothing in Ohno or Tominaga, separately or combined, which cure these defects of Fijolek. Applicants thus find no teaching, suggestion or motivation in the references to combine their teachings to produce the present claimed embodiments. For at least these reasons, Claims 12-22 and 31-32 are allowable over the cited references under 35 USC § 103(a).

Moreover, in directing its teaching towards provision of QoS in a cable based system, and one in which the upstream telephonic pathways that could support DSL are replaced or obviated with cable TV, wireless and satellite based media, Fijolek implicitly **teaches away** from the present claimed embodiments, which relate to **management of network addresses** and to **broadband, including DSL**. Applicants also find nothing in Ohno or Tominaga, separately or combined, which cure these additional defects of Fijolek. Applicants thus also find no teaching, suggestion or motivation in the references to combine their teachings to produce the present claimed embodiments. For these additional reasons, Claims 12-22 and 31-32 are allowable over the cited references under 35 USC § 103(a).

## II. NEW CLAIMS

New Claims 33-46 are added herein. New Claims 33-39 depend upon Claim 32. New Claims 40-46 depend upon Claim 29. New Claims 40-46 and 33-39 incorporate each and every one of the features that are recited in independent Claims 29 and 32, respectively. Claims 29

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and 32 are allowable, as discussed in Section I above. Thus, new Claims 33-46 are allowable by the same rationale. Review is respectfully requested.

### III. CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application. Please charge any shortages or credit any overages to Deposit Account No. 50-1302.

Respectfully submitted,  
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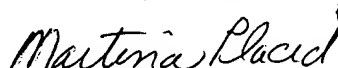
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#### CERTIFICATE OF MAILING

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on June 9, 2006

by

  
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